

## Environmental Protection Agency

## § 86.237-08

hour and a maximum 36-hour soak according to the provisions of § 86.232 and a “hot” start test following the “cold” start test by 10 minutes. Engine startup, operation over the UDDS, and engine shut-down make a complete cold start test. Engine startup and operation over the first 505 seconds of the driving schedule complete the hot start test. The exhaust emissions are diluted with ambient air and a continuously proportional sample is collected for analysis during each phase. The composite samples collected in bags are analyzed for hydrocarbons, carbon monoxide, carbon dioxide, and, optionally, other pollutants. A parallel sample of the dilution air is similarly analyzed for carbon monoxide and, optionally, hydrocarbons, carbon dioxide, and oxides of nitrogen.

(b) As long as an emission sample is not taken, practice runs over the prescribed driving schedule may be performed at test point for the purpose of finding the minimum throttle action to maintain the proper speed-time relationship or to permit sampling system adjustment.

(c) Humidity should be set low enough to prevent condensation on the dynamometer rolls.

(d) The dynamometer shall be warmed as recommended by the dynamometer manufacturer and using procedures or control methods that assure stability of the residual frictional horsepower.

(e) The time between dynamometer warming and the start of the emission test shall be no longer than 10 minutes if the dynamometer bearings are not independently heated. If the dynamometer bearings are independently heated, the emission test shall begin no longer than 20 minutes after dynamometer warming.

(f) If the dynamometer horsepower must be adjusted manually, it shall be set within one hour prior to the exhaust emission test phase. The test vehicle shall not be used to make the adjustment. Dynamometers using automatic control of preselectable power settings may be set anytime prior to the beginning of the emission test.

(g) The driving distance, as measured by counting the number of dynamometer roll or shaft revolutions, shall be

determined for the transient cold start, stabilized cold start, and transient hot start phases of the test.

(h) Four-wheel drive vehicles will be tested in a two-wheel drive mode of operation. Full-time four-wheel drive vehicles will have one set of drive wheels temporarily disengaged by the vehicle manufacturer. Four-wheel drive vehicles which can be manually shifted to a two-wheel drive mode will be tested in the normal on-highway two-wheel drive mode of operation.

### § 86.236-94 Engine starting and re-starting.

The provisions of § 86.136 apply to this subpart.

### § 86.237-08 Dynamometer test run, gaseous emissions.

(a) The complete dynamometer test consists of a cold start drive of approximately 7.5 miles (12.1 kilometers) and a hot start drive of approximately 3.6 miles (5.8 kilometers).

(b) If the preconditioned vehicle is not already on the dynamometer, it shall be pushed into position.

(c) The vehicle is allowed to stand on the dynamometer during the ten minute time period between the cold and hot start test. The cold start test is divided into two periods. The first period, representing the cold start “transient” phase, terminates at the end of the deceleration which is scheduled to occur at 505 seconds of the driving schedule. The second period, representing the “stabilized” phase, consists of the remainder of the driving schedule, including engine shutdown. The hot start test is identical to the first part or transient phase of the cold start test. Therefore, the hot start test terminates after the first period (505 seconds) is run.

(d) The dynamometer run consists of two tests, a cold start test, after a minimum 12-hour and a maximum 36-hour soak according to the provisions of § 86.132, and a hot start test following the cold start test by 10 minutes. The vehicle shall be stored prior to the emission test in such a manner that precipitation (e.g., rain or dew) does not occur on the vehicle. The complete dynamometer test consists of a cold start drive of 7.5 miles (12.1 km) and